

## INTERACTIONS OF UNIVERSITY STUDENTS WITH ELDERLY INDIVIDUALS: AN INVESTIGATION INTO THE CORRELATES

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### **Abstract:**

This study investigated the nature of the relationship between attitudinal, behavioral, and demographic variables and the self-reported interactions of university students with elderly individuals. The Multiple Correlation-Regression analysis sought to isolate the most powerful independent variables that would explain interactions with elderly individuals. Variables under consideration included sex, race, geographical location of hometown, socioeconomic status of parents, quality of elderly interactions, quality of grandparent interactions, personal normative beliefs, social normative beliefs, behavioral intentions, attitudes, and knowledge of the elderly. It was concluded that the variables of sex, quality of interaction with grandparents, personal normative beliefs, social normative beliefs, and knowledge contributed a significant ( $p < .05$ ) proportion of the variation within the independent variable, interaction with elderly individuals. Females reported significantly higher interactions. As quality of grandparent relationship was rated more comfortable and friendly interactions also increased. More powerful personal and social beliefs regarding the student's perceptions of expected behavior were significantly associated with increased elderly interactions. This investigation provides a basis for program planning, implementation and evaluation based on behavior. Schools and other institutions and agencies may find this model useful for needs assessment as well as program evaluation.

### **Article:**

There are currently 20 million Americans over the age of 65, comprising 11% of the total population. The expected increase, based on fertility and mortality assumptions, ranges from 13% to 20% by the year 2000 (U.S. Bureau of the Census, 1984). This dramatic projected increase in the number and proportion of older Americans is the major reason for the heightened interest in gerontology (Deming & Cutler, 1983). One area of interest is the nature of attitudes toward elderly individuals. In past research, numerous studies have reported negative attitudes (Miller, Blalock, & Ginsberg, 1984; Chitwood & Bigner, 1980; Weinberger & Millham, 1975). However, some studies reported findings of positive attitudes toward the elderly (Trent, Glass, & Crockett, 1979; Ivester & King, 1977; Thomas & Yamamoto, 1975).

Much of this previous research attempted to identify demographic variables that would account for the variability of attitude toward the elderly. One commonly investigated correlate of attitude is amount of contact with elderly individuals. Research on this variable has elicited diverse results which largely depended on the operational definition of contact; for example, working with elderly individuals was a negative correlation (Gunter, 1971), whereas contact with grandparents was a positive correlate (Bekker & Taylor, 1966). It was suggested that quality of contact may be more of a predictor of attitudes than mere contact (Ivester & King, 1977).

Other variables that have been proposed as having an impact on attitudes toward the elderly age sex, socioeconomic status, geographical location, and race. With regard to sex, previous research has revealed conflicting results. Some researchers report that females hold more negative attitudes toward the elderly than do males (Bekker & Taylor, 1966; Weinberger & Millham, 1975). Conversely, other studies found more positive attitudes among females than males (Allen, 1981; Fillmer, 1982; Trent, Glass, & Crockett, 1979).

The additional variables of socioeconomic status and geographic location has been examined, but infrequently. Among the studies in which the impact of socioeconomic status was assessed, it was found the students from higher socioeconomic groups had more positive attitudes toward the elderly than students from lower socioeconomic groups (Rosencranz & McNevin, 1959; Ivester & King, 1977). It was suggested that socioeconomic status may be confounded with race, in that blacks reported more negative attitudes than white subjects. However, Thorson (1975) found no differences in attitudes toward elderly individuals between black and white subjects. In regard to geographic location, Winberger and Millham (1975) found that those subjects from metropolitan areas judged older persons as contributing less to society than young persons.

Clearly, there have been diverse findings in regard to demographic variables and their relationship to attitudes toward the elderly. Further, most of this previous research was bivariate in scope, primarily examining relationships between one or two demographic variables and attitudes. Investigating only attitudes toward the elderly and selected demographics is limited. It would be of interest to investigate the nature of attitudes toward the elderly as well as the differential impact of demographic variables on behavior. In past research it was suggested that negative attitudes cause avoidance of the elderly or negative adjustment to the aging process leading to poor coping. This assumption is the foundation on which intervention programs are based. Therefore, researchers and educators should be able to determine if intervention programs impact on behavior. Further, one can-not presume behavioral implications from attitude research. On a practical basis, researchers and educators need to understand behavioral dynamics to intervene effectively to improve quantity and quality of interaction with elderly individuals. This study examines the impact of attitudinal and demographic variables on university students' behavioral interactions with elderly individuals. Also included in this multivariate study is the behavioral variable, behavioral intention. According to Fishbein and Ajzen (1975), behavioral intention is the precursor of behavior.

## **PROCEDURES**

The subjects who volunteered to participate in this study were students enrolled in one-credit health education courses at a large, eastern university. Departmental study revealed that students enrolled in these courses did not differ from the total population of the university according to the variables of sex, semester standing, or major area of study. The sample on which the data were analyzed included 311 males and 357 females, of which 15% were from urban areas, 54% from suburban or average-sized towns and 30% from small towns or rural areas.

The questionnaire, divided into two segments, was administered at five-week intervals. All subjects who participated in the study received the questionnaire in a uniform manner. Participation was voluntary, confidential, and independent of their course grade. The components on the first segment of the questionnaire used in this study were:

1. Five demographic items representing information about the sex and race of the subjects, the geographic location of their home-town, and the socioeconomic status of their parents.

2. Two items designed to evaluate the students' perception of the quality of interaction with their grandparents and with other elderly individuals. This qualitative item was scored similar to a Likert scale, where 1 indicated a very uncomfortable, unfriendly relationship and 5 indicated a very comfortable, friendly relationship.
3. A 7-item scale that evaluated personal normative beliefs: the individual's personal belief about what one should do in regard to activity with elderly individuals. Responses to the items on this scale were measured on a 7-point continuum, with high scores indicating that the individual personally feels that he or she should engage in activities with elderly individuals. The possible range of scores was 7 to 49. Activities represented include reading; shopping; visiting; volunteering at a nursing home; physical activities such as walking, tennis, etc.; political support; or hiring an elderly individual.
4. A 7-item scale that evaluated the individual's social normative beliefs regarding activity with elderly individuals. Patterned similarly to the personal belief scale described above, the social belief scale referent was "my friends" rather than the referent "I" that appeared on the personal belief scale.
5. A 7-item behavioral intention scale asked the student to rate how likely it would be for him or her to engage in the activity with an elderly individual. High scores on this scale indicated that they would engage in the activity while low scores indicated that they would not. Possible range was from 7 to 49.
6. The Kogan Old People Scale (1961), which consisted of 17 positively worded and 17 negatively worded statements, was used to assess attitudes towards the elderly. The scale is scored on a Likert format with low scores indicating negative attitudes and high scores indicating positive attitudes toward the elderly. The possible range of scores was from 34 to 170.
7. The Miller-Dodder (1980) revision of Palmore's Facts on Aging Quiz, was implemented as the test of knowledge. This true-false test consisted of 24 questions designed to measure current knowledge of aging and the aged. A third response of "don't know" was utilized to decrease guessing and therefore achieve a more accurate knowledge score.

The second segment of the questionnaire was administered five weeks later. Two administrations were utilized to decrease the possibility of response sets. The function of the second segment was to evaluate levels of interactions with elderly individuals. This second questionnaire consisted of 11 items measuring the type and frequency of the student's interaction with elderly individuals. Type of activities included quiet visits, conversations, meals, quiet games, shopping, various physical activities, and visits to nursing homes. Frequency was rated from 0 indicating never to 4 indicating three to four times a month.

Validity for the scales originated by the researcher was assessed in a pilot study using construct validity techniques. This method consists of correlating scales with other measures in predicted ways, but for which no true criterion exists (Windsor, Baranowski, Clark, & Cutter, 1984). Theoretically, behavior should correlate with behavioral intention (Fishbein & Ajzen, 1975). In the pilot study, this correlation coefficient was .68. Personal and social normative beliefs should correlate with behavioral intention as well. These correlations were personal beliefs, .75, and social beliefs, .15. The low correlation coefficient between social normative beliefs and behavioral intention indicates that social influence in regard to intention to engage in interactions with elderly individuals is low or that the referent may be inappropriate.

Reliability for the scales was also determined in the pilot study and was determined utilizing Cronbach's alpha ( $\alpha$ ) formula for internal consistency. Results of the analysis revealed reliability coefficients which are moderately high for all scales. (See Table 1 for a summary of the reliability coefficients.)

## RESULTS

The data were analyzed by STPAC, a statistical package developed by the Pennsylvania State University Computation Center (1983). Descriptive data are reported in Table 2.

A Multiple Correlation-Regression analysis was conducted using the self-reported interactions with elderly individuals as the dependent variable. The independent variables considered included: sex, race, socioeconomic status of parents, geographical location of home-town, quality of elderly interactions, quality of grandparent interactions, personal and social normative beliefs, attitudes toward the elderly, and knowledge of the elderly. In addition, a step-down feature was utilized to isolate the independent variables that contributed significantly to the explained variances in the dependent variable. This procedure deletes one variable at a time until there are no variables that add significantly to the regression equation.

**TABLE 1** Reliabilities for Selected Subscales Based on the Pilot Study

Scale	$\alpha$	$N^a$
Kogan's Old People	.87	124
Miller-Dodder Revision	.72	124
Behavioral intention	.81	124
Personal normative beliefs	.79	124
Social normative beliefs	.90	124
Self-reported interactions	.83	109

<sup>a</sup>Ns differ owing to two administrations.

**TABLE 2** Reported Means and Standard Deviations for Independent Variables and the Dependent Variables

Variables	Mean	SD	Range	$N$
<b>Independent</b>				
Quality of elderly interaction	4.37	.74	1-5	568
Quality of grandparent interaction	4.59	.81	1-5	568
Socioeconomic status of parents	9.93 <sup>a</sup>	2.96	2-16 <sup>b</sup>	568
Personal normative beliefs	30.01	8.35	7-49	568
Social normative beliefs	21.60	9.54	7-49	568
Behavioral intentions	32.81	8.11	7-49	568
Attitude	122.21	11.61	34-170	568
Knowledge	11.44	3.73	0-24	568
<b>Dependent</b>				
Interaction with elderly individuals	19.56	5.35	0-24	568

<sup>a</sup>\$30,000 to \$35,000.

<sup>b</sup>2 = \$5,000 and less; 16 = \$70,000 and over.

Results of the Multiple Correlation-Regression analysis are re-reported in Table 3. The *F* ratio was not statistically significant. The greatest contributing variables are quality of grandparent interaction, sex (female), personal normative beliefs, social normative beliefs, and knowledge.

The results of the step-down feature implemented was the elimination of the three least contributing variables. This resulted in the explanation of a significant proportion in the dependent variable (see Table 4).

Variables that contributed significantly to the explained variance were sex, quality of interaction with grandparents, personal normative beliefs, social normative beliefs, and knowledge. This model accounted for 23% of the variation within interaction scores. Briefly:

1. Females reported significantly more interactions with elderly individuals.
2. Overall, as the quality of the relationship with grandparents was rated as more comfortable and friendly, interactions increased.
3. As personal normative belief score increased, self-reported interactions also increased.
4. There was a significant relationship between social normative beliefs which are the individual's perception of others' expectations of his or her behavior and the self-reported interactions with the elderly.
5. Higher scores on the knowledge test were significantly associated with interactions with the elderly.

## **DISCUSSION**

The purpose of this study was to investigate the nature of the relationship between various attitudinal, demographic, and behavioral variables, and the self-reported interactions with elderly individuals. To this end, multivariate analysis revealed that sex, quality of grand-parent interaction, personal and social normative beliefs, and knowledge explained a significant portion of the variance ( $p < .05$ ). These findings are similar to earlier research. However, it is difficult to compare and contrast these findings with earlier studies in that the focus of the present study was on interactions with the elderly rather than attitudes. Attitude, in this study, did not contribute significantly as an independent variable.

The significant relationship revealed between interactions with the elderly and personal and social normative beliefs is of interest. On a personal level, it can be suggested that individuals who interact frequently with elderly individuals have internalized the notion that interacting with the elderly is expected of them. On a social level, it is perceived by this sample that there is social pressure exerted in regard to engaging in activities with elderly individuals. This finding confirms the contention by Ajzen and Fishbein (1970) that to predict behavior, rather than use attitudes toward the object, measure of normative beliefs will yield more useful information. Thus, if an intervention program is intended to change behavior, the efficacy of that program will depend, in part, on its ability to effect normative beliefs.

In regard to the knowledge variable, most previous research examined the relationship between attitudes and knowledge. However, this study did corroborate Allen's (1981) findings of a lack of accurate knowledge about older people in society as evidenced by the low mean knowledge score (11.44). It appears that on the basis of these findings, interaction with elderly individuals is either serving as a source of information or that interaction with the elderly prompts a search for more information.

**TABLE 3** Regression Analysis Self-Reported Interactions with the Elderly and the Dependent Variables

Independent variable	Interactions with the elderly	
	$\beta$	Partial corr
Sex	.111	.118**
Race	-.040	-.044
Geographical location of hometown	.042	.046
Quality of interaction with elderly	.040	.040
Quality of interaction with grandparents	.208	.213***
Socioeconomic status of parents	.049	.054
Personal normative beliefs	.153	.111*
Social normative beliefs	.122	.107*
Behavioral intention	.103	.080
Attitude	-.047	-.043
Knowledge	.096	.104*

Note.  $R^2 = .229$ ,  $F = 1.497$ .

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

**TABLE 4** Step-Down Regression Analysis Interactions with Elderly Individuals and Independent Variables

Independent variable	Interactions with the elderly	
	$\beta$	Partial corr
Sex	.109	.117**
Geographical location of hometown	.045	.051
Quality of interaction with grandparents	.215	.232***
Socioeconomic status of parents	.053	.058
Personal normative beliefs	.142	.105*
Social normative beliefs	.127	.112*
Behavioral intention	.099	.080
Knowledge	.093	.103*

Note.  $R^2 = .225$ ,  $F = 2.028^*$ .

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

Within this sample of university students, females reported significantly higher interaction with the elderly. Fillmer (1982) found the same results in a young sample. When one examines the other significant variables, personal and social normative beliefs and quality of grandparent interaction,

inferences may be drawn that differential socialization impacting on the belief system may be a factor in regard to interactions with the elderly.

Finally, these data indicate that a positively rated quality of grand-parent relationship will increase interactions with elderly individuals. Similar findings were found in the literature (Bekker & Taylor, 1966; Chitwood & Bigner, 1980).

A disappointing result of this study was that behavioral intention was not sustained as an independent variable. This is opposition to the findings of Ajzen and Fishbein (1974). Assumptions on which this relationship is based include the behavior must be under volitional control of the individual; the greater the time interval between the measure of intention and the measure of the behavior, the greater the likelihood that intentions will change; the individual must possess the skills and means to perform the behavior; and the habits of the individual may intervene and preclude the performance of the behavior (Fishbein & Jaccard, 1973). Therefore, the likelihood exists that these students may not have possessed the means (i.e., did not have an opportunity to interact with an elderly individual) or that their habits interfered with engaging in interactions with elderly individuals.

## CONCLUSIONS

The findings of this study present a number of important implications for program planners within educational institutions as well as other agencies and organizations. Although this study was limited to university students, the findings provide some insights into the variables related to interacting with elderly individuals. Program components that may be suggested based on these findings are the inclusion of a knowledge component and a positive intergenerational contact component. Future research should include the examination of differential socialization as well as the examination of the sex of the elderly individual in that these variables may affect interacting with elderly individuals.

In addition, the instruments utilized in this study could be of value as a means of evaluating program impact. As noted by Kogan (1979), the credence of intervention studies would be enhanced if both attitudinal and behavioral changes could be demonstrated.

Implications of this study may also be channeled into health education research. The present study accounted for approximately 23% of the variation in the dependent variable, interaction with the elderly.

Although a large amount of unexplained variance remains, the present study is among the first multivariate investigations attempted in regard to interactions with elderly individuals. Behavior is best explained on a multifactorial basis. Future study should build on these findings and investigate other possible factors.

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